



#6 CIP 1714

ATTORNEY'S DOCKET NO: N00410/70000

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Lawrence F. Hancock, et al.  
Serial No: 09/997,999  
Confirmation No.: 3909  
Filed: November 30, 2001  
For: LUMINESCENT POLYMER PARTICLES  
  
Examiner: Not Yet Assigned  
Art Unit: 1714

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MAR 25 2002  
TC 1700

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to Commissioner for Patents, Washington, D.C. 20231, on the 14 day of March, 2002.

Karen M. O'Angelo  
Signature

Commissioner for Patents  
Washington, D. C. 20231

Sir:

Transmitted herewith are the following documents:

- ☒ Information Disclosure Statement (IDS) with PTO form 1449
- ☒ Return Receipt Postcard

If the enclosed papers are considered incomplete, the Mail Room and/or the Application Branch is respectfully requested to contact the undersigned at (617) 720-3500, Boston, Massachusetts.

No fee is believed to be necessary. If this is insufficient, the Commissioner is hereby authorized to charge Deposit Account No. 23/2825. A duplicate of this sheet is enclosed.

Respectfully submitted,  
**Lawrence F. Hancock, et al., Applicants**

By: [Signature]  
Timothy J. Oyer, Reg. No. 36,628  
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Telephone (617) 720-3500

Docket No. N00410/70000  
Dated: March 14, 2002



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*Karen M. D'Angelo*  
Signature

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Commissioner for Patents  
Washington, D.C. 20231

STATEMENT FILED PURSUANT TO THE DUTY OF  
DISCLOSURE UNDER 37 CFR §§1.56, 1.97 AND 1.98

Sir:

Pursuant to the duty of disclosure under 37 C.F.R. §§1.56, 1.97 and 1.98, the Applicant requests consideration of this Information Disclosure Statement.

PART I: Compliance with 37 C.F.R. §1.97

This Information Disclosure Statement has been filed before the mailing date of a first Office Action on the merits in the above-identified case. No fee is required.

PART II: Information Cited

The Applicant hereby makes of record in the above-identified application the information listed on the attached form PTO-1449 (modified). The order of presentation of the references should not be construed as an indication of the importance of the references.

PART III: Remarks

Documents cited on the attached form PTO-1449 (modified) are enclosed unless otherwise indicated on the attached form PTO-1449 (modified). It is respectfully requested that:

1. The Examiner consider completely the cited information, along with any other information, in reaching a determination concerning the patentability of the present claims;
2. The enclosed form PTO-1449 be signed by the Examiner to evidence that the cited information has been fully considered by the Patent and Trademark Office during the examination of this application;
3. The citations for the information be printed on any patent which issues from this application.

By submitting this Information Disclosure Statement, the Applicant makes no representation that a search has been performed, of the extent of any search performed, or that more relevant information does not exist.

By submitting this Information Disclosure Statement, the Applicant makes no representation that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b).

By submitting this Information Disclosure Statement, the Applicant makes no representation that the information cited in the Statement is, or is considered to be, in fact, prior art as defined by 35 U.S.C. §102.

Notwithstanding any statements by the Applicant, the Examiner is urged to form his own conclusion regarding the relevance of the cited information.

An early and favorable action is hereby requested.

Serial No.: 09/997,999  
Confirmation No.: 3909

- 3 -

Art Unit: 1714

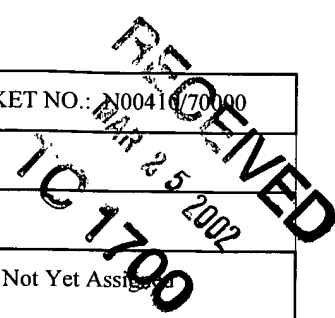
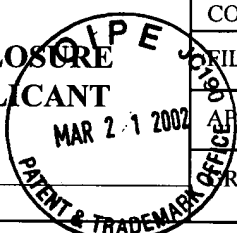
Respectfully submitted,  
*Hancock et al., Applicants*

By: 

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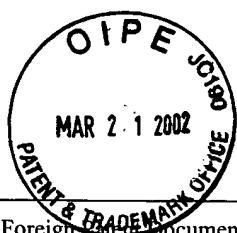
Docket No. N00410/70000  
Dated: March 14, 2002  
**xndd**

FORM PTO-1449/A and B (Modified)		APPLICATION NO.: 09/997,999 CONFIRMATION NO.: 3909		ATTY. DOCKET NO.: N00416/70000	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>		FILING DATE: November 30, 2001			
		APPLICANT: Hancock, et al.			
Sheet 1 of 3		GROUP ART UNIT: 1714		EXAMINER: Not Yet Assigned	



**U.S. PATENT DOCUMENTS**

Examiner's Initials#	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication or of issue of Cited Document MM-DD-YYYY
		Number	Kind Code		
	1	4,356,429		Tang	10/26/1982
	2	4,687,732		Ward et al.	08/18/1987
	3	4,927,768		Coughlin et al.	05/22/1990
	4	4,992,302		Lindmayer	02/12/1991
	5	5,155,149	A	Atwater et al.	10/13/1992
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	10	5,364,797	A	Olson et al.	11/15/1994
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	15	5,532,129	A	Heller	07/02/1996
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	28	5,700,696	A	Chandross et al.	12/23/1997
	29	5,705,348	A	Meade et al.	01/06/1998
	30	5,709,994	A	Pease et al.	01/20/1998
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# FOREIGN PATENT DOCUMENTS

Examiner's Initials#	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document (not necessary)	Date of Publication of Cited Document MM-DD-YYYY	Translation (Y/N)
		Office/Country	Number	Kind Code			
	34	JPO	06-322078		Ryuichi et al.	11/22/1994	
	35	EP	0442123	A1	Neste Oy	08/21/1991	
	36	WO	95/16681	A1	The Trustees of the University of Pennsylvania	06/22/1995	
	37	WO	99/57222	A1	Swager et al.	11/11/1999	

## OTHER ART — NON PATENT LITERATURE DOCUMENTS

Examiner's Initials#	Cite No	Include name of the author (in CAPITAL LETTERS) title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, relevant page(s), volume-issue number(s), publisher, city and/or country where published.	Translation (Y/N)	
	38	HALKYARD, CARRIE E., ET AL., "Evidence of Aggregate Formation for 2,5-Dialkylpoly ( <i>p</i> -phenyleneethynyls) in Solution and Thin Films," Macromolecules, November 25, 1998, Vol. 31, No. 25, pp. 8655-8659, American Chemical Society		
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	41	CHEN, LIAOHAI, ET AL., "Tuning the Properties of Conjugated Polyelectrolytes through Surfactant Complexation," Journal of the American Chemical Society, 2000, Vol. 122 No. 38, pp. 9302-9303		
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	43	CHEN, LIAOHAI ET AL., "Highly Sensitive Biological and Chemical Sensors Based on Reversible Fluorescence Quenching in a Conjugated Polymer," Proceedings of the National Academy of Sciences of the United States of America, October 26, 1999, Vol. 96, No. 22, pp. 12287-12292		
	44	LAIBIN, LUO, ET AL., "Thermodynamic Stabilization Mechanism of Block Copolymer Vesicles," Journal of the American Chemical Society, 2001, Vol. 123, No. 5, pp. 1012-1013, American Chemical Society		
	45	WU, CHI, ET AL., "Novel Nanoparticles Formed via Self-Assembly of Poly(ethylene glycol- <i>b</i> -sebacic anhydride) and Their Degradation in Water," Macromolecules, October 31, 2000, Vol. 33, No. 24, pp. 9040-9043, American Chemical Society		
	46	HEEGER, PETER S., ET AL., "Making Sense of Polymer-Based Biosensors," Proceedings of the National Academy of Sciences of the United States of America, October 26, 1999, Vol. 96, No. 22, pp. 12219-12221		
	47	LI, MEI, ET AL., "Novel Surfactant-Free Stable Colloidal Nanoparticles Made of Randomly Carboxylated Polystyrene Ionomers," Macromolecules, 1997, Vol. 30, No. 7, pp. 2201-2203, American Chemical Society		
	48	ZHANG, GUANGZHAO, ET AL., "Formation of Novel Polymeric Nanoparticles," Accounts of Chemical Research, January 6, 2001, Vol. 34, No. 3, pp. 249-256, American Chemical Society		
	49	SIGURD, HÖGER, ET AL., "Synthesis, Aggregation, and Adsorption Phenomena of Shape-Persistent Macrocycles with Extraannular Polyalkyl Substituents," Journal of the American Chemical Society, May 22, 2001, Vol. 123, No. 24, pp. 5651-5659, American Chemical Society		
	50	GAYLORD, BRENT S., ET AL., "Water-Soluble Conjugated Oligomers: Effect of Chain Length and Aggregation on Photoluminescence-Quenching Efficiencies," Journal of the American Chemical Society, June 8, 2001, Vol. 123, No. 26, pp. 6417-6418, American Chemical Society,		
	51	HARRISON, BENJAMIN S., ET AL., "Amplified Fluorescence Quenching in a Poly( <i>p</i> -phenylene)-Based Cationic Polyelectrolyte," Journal of the American Chemical Society, August 16, 2001, Vol. 122, No. 35, pp. 8561-8562, American Chemical Society		
	52	Q. ZHOU & T.M. SWAGER, "Methodology for Enhancing the Sensitivity of Fluorescent Chemosensors: Energy Migration In Conjugated Polymers," Journal of the American Chemical Society, Vol. 117, No. 26, pp. 7017-7018, 1995, American Chemical Society		
	53	J. KIM ET AL., "Nanoscale Fibrils and Grids: Aggregated Structures from Rigid-Rod Conjugated Polymers," Macromolecules, March 9, 1999, Vol. 32, No. 5, pp. 1500-1507, American Chemical Society		
	54	A.W. SNOW ET AL., "Synthesis and Evaluation of Hexafluorodimethylcarbinol Functionalized Polymers as Microsensor Coatings," Journal of Applied Polymer Science, Vol. 43, pp. 1659-1671, 1991, John Wiley and Sons		
	55	I.A. LEVITSKY ET AL., "Energy Migration in a Poly(phenylene ethynylene): Determination of Interpolymer Transport in Anisotropic Langmuir-Blodgett Films," Journal of the American Chemical Society, February 4, 1999, Vol. 121, No. 7, pp. 1466-1472, American Chemical Society		
	56	K.A. VAN HOUTEN ET AL., "Rapid Luminescent Detection of Phosphate Esters in Solution and the Gas Phase Using (dppe)Pt{S <sub>2</sub> C <sub>2</sub> (2-pyridyl)(CH <sub>2</sub> CH <sub>2</sub> OH)}," Journal of the American Chemical Society, November 13, 1998, Vol. 120, No. 47, pp. 12359-12360, American Chemical Society		



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58	SWAGER, TIMOTHY M., ET AL., "Fluorescent studies of poly(p-phenyleneethylene)s: The Effect of Anthracene Substitution," Journal of Physical Chemistry, March 30, 1995, Vol. 1995, No. 99, pp. 4886-4893, American Chemical Society		
59	SWAGER, TIMOTHY M., ET AL., "The Molecular Wire Approach to Sensory Signal Amplification," Accounts of Chemical Research, April 4, 1998, Vol. 31, No. 5, pp. 201-207, American Chemical Society		
60	FU DIAN-KUI, ET AL., "Alternating Poly(Pyridyl Vinylene Phenylene Vinylene)s: Synthesis and Solid State Organizations," Tetrahedron, November 10, 1997, Vol. 53, No. 45, pp. 15487-15494, Elsevier Sci. Ltd.		
61	MIAO YI-JUN, ET AL., "Fluorescence Sensory Polymers Containing Rigid Non-Planar Aromatic Scaffolds," Proceedings of the 1997 Boston Meeting; Boston, MA, USA, August 23-27, 1998, Vol. 39, No. 2, pp. 1081-1082		
62	YANG, JYE-SHANE, ET AL., "Fluorescent Porous Polymer Films as TNT Chemosensors: Electronic and Structural Effects," Journal of the American Chemical Society, November 11, 1998, Vol. 120, No. 46, pp. 11864-11873, American Chemical Society		
63	WEDER, CHRISTOPH, ET AL., "Efficient Solid-State Photoluminescence in New Poly(2,5-dialkoxy-p-phenyleneethynylene)s," Macromolecules, July 15, 1996, Vol. 15, No. 29, pp. 5157-5165, American Chemical Society		

EXAMINER	DATE CONSIDERED
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#EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

\*a copy of this reference is not provided as it was previously cited by or submitted to the office in a prior application, Serial No. \_\_\_\_\_, filed \_\_\_\_\_, and relied upon for an earlier filing date under 35 U.S.C. 120 (continuation, continuation-in-part, and divisional applications).

[NOTE - Must provide a copy of any patent, publication, other information listed, even if it was previously submitted to, or cited by, the U.S. Patent Office in an earlier application, unless the earlier application is identified by the IDS and is relied upon for an earlier filing date under 35 U.S.C. §120, and the copy was provided in the earlier application.]